

Title (en)  
COUNTER-FLOW REACTANT MIXING FOR EXHAUST GAS AFTERTREATMENT

Title (de)  
GEGENSTROM-REAKTIONSMITTELMISCHUNG ZUR ABGASNACHBEHANDLUNG

Title (fr)  
MÉLANGE DE RÉACTIFS À CONTRE-COURANT POUR POST-TRAITEMENT DE GAZ D'ÉCHAPPEMENT

Publication  
**EP 4197627 A1 20230621 (EN)**

Application  
**EP 22212130 A 20221208**

Priority  
FI 20216288 A 20211216

Abstract (en)  
A mixer and a method therein, including feeding a rotating flow (150) of exhaust gas in a mixing pipe (120) towards a turning end (112) of a mixing chamber (110); dosing reactant by a doser (170) against the rotating flow around a centreline (122) of the mixing pipe; maintaining a guide (180) around the doser such that a front face of the guide faces the rotating flow, and the guide defines a central opening (182) surrounding the doser; guiding a side flow (1b) out of the rotating flow to a carrier flow around the doser via the central opening; and inhibiting by the guide turbulence from being transferred from the side flow to the carrier flow.

IPC 8 full level  
**B01F 23/213** (2022.01); **B01F 25/313** (2022.01); **B01F 25/433** (2022.01); **F01N 3/20** (2006.01)

CPC (source: EP FI US)  
**B01D 53/79** (2013.01 - US); **B01D 53/90** (2013.01 - FI); **B01F 23/2132** (2022.01 - EP FI US); **B01F 25/103** (2022.01 - US); **B01F 25/3131** (2022.01 - EP FI US); **B01F 25/4332** (2022.01 - EP); **B01F 35/55** (2022.01 - US); **F01N 3/021** (2013.01 - EP); **F01N 3/035** (2013.01 - EP); **F01N 3/2066** (2013.01 - EP); **F01N 3/208** (2013.01 - FI); **F01N 3/2892** (2013.01 - EP); **F01N 13/0097** (2014.06 - EP); **B01F 2025/913** (2022.01 - EP); **B01F 2025/915** (2022.01 - EP); **B01F 2025/918** (2022.01 - EP US); **B01F 2025/931** (2022.01 - EP); **F01N 2510/068** (2013.01 - EP); **F01N 2610/02** (2013.01 - EP); **Y02T 10/12** (2013.01 - EP)

Citation (search report)  
• [YA] EP 3327263 A1 20180530 - PROVENTIA EMISSION CONTROL OY [FI]  
• [YA] US 10612442 B2 20200407 - BOLDT THOMAS [DE], et al  
• [YA] US 2016047288 A1 20160218 - ARROWSMITH DUNCAN J [GB], et al

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Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4197627 A1 20230621**; FI 130253 B 20230511; FI 20216288 A1 20230511; US 2023191342 A1 20230622

DOCDB simple family (application)  
**EP 22212130 A 20221208**; FI 20216288 A 20211216; US 202218064791 A 20221212